

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A distributed sensing system in a networked environment for identifying an analyte, said system comprising:

a first sensor array connected to said network comprising sensors capable of producing a first response in the presence of a chemical stimulus;

a second sensor array or single sensor connected to said network comprising sensors capable of producing a second response in the presence of a physical stimulus, wherein each sensor of said second sensor array or said single sensor is an optical sensor, a mechanical sensor, a radiation sensor, a thermal sensor or combinations thereof;

a computer connected to said network;

a computer readable algorithm for execution by said computer ~~for identifying said analyte~~, said computer readable algorithm comprising

instructions for indicating or selecting the most relevant sensor modality to use within each sensor array for a particular application in said network ~~comparing said first response and said second response with a known response~~, and

instructions for comparing a combination of said first response and said second response with combinations of responses of a particular analyte or mixture of substances that are known so as to identify ~~identifying~~ an unknown analyte.

2. (Canceled)

3. (Original) The system according to claim 1, wherein each sensor of said first sensor array is a member selected from the group consisting of a bulk conducting polymer film, a semiconducting polymer sensor, a surface acoustic wave device, a fiber optic micromirror, a quartz crystal microbalance, a conducting/nonconducting regions sensor, a dye impregnated polymeric coatings on optical fiber and combinations thereof.

4. (Canceled)

5. (Original) The system according to claim 3, wherein each sensor of said first sensor array is a conducting/nonconducting regions sensor.

6. (Canceled)

7. (Original) The system according to claim 1, wherein the transmission of said first response is conducted via wired communications.

8. (Original) The system according to claim 1, wherein the transmission of said first response is conducted via wireless communications.

9. (Currently Amended) The system according to claim 8, wherein said wireless communications are implemented using communications technologies selected from the a ~~member of a~~ group consisting of infrared technology, satellite technology, microwave technology and radio wave technology.

10. (Original) The system according to claim 1, wherein said networked environment is a member selected from the group consisting of a worldwide computer network, an internet, the Internet, a wide area network, a local area network, an intranet and combinations thereof.

11. (Original) The system according to claim 1, wherein said networked environment is the Internet.

12-18. (Withdrawn)

19. (Currently Amended) A method for transferring a combination of chemical and physical data over a computer network for identification of an analyte, said method comprising:

transmitting sensory data from a first sensor array comprising sensors capable of producing a first response in the presence of a chemical stimulus to a remote location;

transmitting physical data from a second sensor array or single sensor comprising sensors capable of producing a second response in the presence of a physical stimulus to a remote location, wherein each sensor of said second sensor array or single sensor is an optical sensor, a mechanical sensor, a radiation sensor, a thermal sensor or combinations thereof; and

processing said sensory and physical data at said remote location ~~for identification of an analyte~~, wherein said processing comprises

indicating or selecting the most relevant sensor modality to use within each sensor array for a particular application in said network and

comparing said first response and said second response with ~~a known response~~ known combinations of responses so as to identify, and identifying an unknown analyte.

20. (Original) The method according to claim 19, further comprising employing a sensor selection algorithm to determine sensors in said first array.

21. (Original) The method according to claim 19, wherein each sensor of said first sensor array is a member selected from the group consisting of a bulk conducting polymer film, a semiconducting polymer sensor, a surface acoustic wave device, a fiber optic micromirror, a quartz crystal microbalance, a conducting/nonconducting regions sensor, a dye impregnated polymeric coatings on optical fiber and combinations thereof.

22. (Canceled)

23. (Currently Amended) A distributed sensing system in a networked environment for identifying an analyte, said system comprising:

a first sensor array connected to said network comprising sensors capable of producing a first response in the presence of a chemical stimulus, wherein said first sensor is connected with said network via a wireless connection;

a second sensor array or single sensor connected to said network comprising sensors capable of producing a second response in the presence of a physical stimulus, wherein each sensor of said second sensor array or single sensor is an optical sensor, a mechanical sensor, a radiation sensor, a thermal sensor or combinations thereof;

a computer connected to said network;

computer readable instructions for execution by said computer ~~for identifying said analyte~~, said computer readable instructions comprising

instructions for indicating or selecting the most relevant sensor modality to use within each sensor array for a particular application in said network,

instructions for comparing said first response and said second response with a ~~known response~~ known combinations of responses so as to identify, and

~~instructions for identifying~~ an unknown analyte.

24. (Currently Amended) A distributed sensing system in a networked environment for identifying an analyte, said system comprising:

a first sensor array connected to said network comprising sensors capable of producing a first response in the presence of a chemical stimulus;

a second sensor array or single sensor connected to said network comprising sensors capable of producing a second response in the presence of a physical stimulus, wherein one of said sensors in said second sensor array or single sensor is an infrared sensor;

a computer connected to said network;

computer readable instructions for execution by said computer ~~for identifying said analyte~~, said computer readable instructions comprising

instructions for indicating or selecting the most relevant sensor modality to use within each sensor array for a particular application in said network,

instructions for comparing said first response and said second response with a ~~known response~~ known combinations of responses so as to identify, and ~~instructions for identifying~~ an unknown analyte.

25. (Currently Amended) A distributed sensing system in a networked environment for identifying an analyte, said system comprising:

a first sensor array connected to said network comprising sensors capable of producing a first response in the presence of a chemical stimulus, wherein said first sensor is connected with said network via a wireless connection;

a second sensor array or single sensor connected to said network comprising sensors capable of producing a second response in the presence of a physical stimulus, wherein one of said sensors in said second sensor array or single sensor is an infrared sensor;

a computer connected to said network;

computer readable instructions for execution by said computer ~~for identifying said analyte,~~ said computer readable instructions comprising

instructions for indicating or selecting the most relevant sensor modality to use within each sensor array for a particular application in said network,

instructions for comparing said first response and said second response with a ~~known response~~ known combinations of responses so as to identify, and ~~instructions for identifying~~ an unknown analyte.